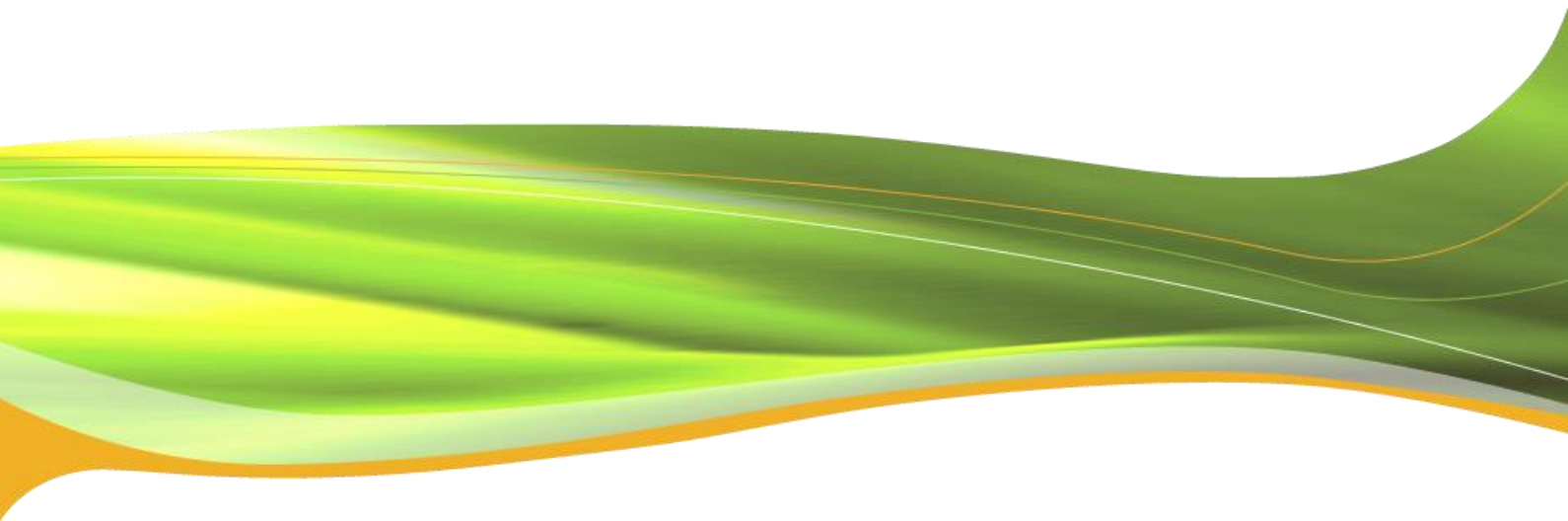


EDSO response to European Commission consultations on draft state aid guidelines for energy and the environment and a Union framework for state aid for research, development and innovation



EDSO for Smart Grids

European Distribution System Operators for Smart Grids (EDSO) represents leading European electricity distribution system operators (DSOs). EDSO member DSOs are regulated monopolies, legally and functionally unbundled from electricity generation and retail and have at their core the responsibility of providing a secure supply of electricity and quality of service. The European climate and energy policy objectives, as well as the deregulation and integration of Europe's electricity markets, are dramatically transforming our energy system. A more dynamic system, increasingly reliant on distributed generation, with active consumers in focus, is replacing the old and more predictable system based on centralised power generation. DSOs are neutral to, although heavily affected by, the makeup of electricity generation across Europe, since most of the new renewable and distributed electricity generation is connected at distribution level. EDSO members are investing in smart grid technologies, research, development, demonstration and innovation and are already at the forefront of renewables integration and energy efficiency improvements. European DSOs are 100 percent committed, but struggling to develop and deploy smart grids at the necessary pace in the lead up to 2020, based on the present preconditions.

Introduction

European DSOs are profoundly affected by the changing nature of electricity generation across Europe. Substantial amounts of public money has been allocated to support renewable energy generation, but now is the time to support the integration of these renewables into our networks in ways that will safeguard security of supply and quality of service, while keeping costs down. It has been recognised in a number of European Commission publications that smart grids are the solution not only to integrating more variable and distributed energy generation, but also to having a fully functioning and integrated internal market for electricity, where the consumer plays an active role.

In order to deploy smart grids, there is a great need for investment in research, development and innovation, where large-scale demonstration is a prerequisite, as well as for investment in actual deployment. Regarding RD&D and innovation, EDSO appreciates the European Commission's focus on grids at distribution level in the ENERGY call 2014-2015, under Horizon 2020. EDSO would also like to highlight the need to continue the important coordination of funding for smart grid RD&D and innovation undertaken by the European Electricity Grid Initiative (EEGI), the European multi-stakeholder industrial initiative under the Strategic Energy Technology Plan (SET-Plan) where distribution and transmission system operators are cooperating. Furthermore, EDSO thanks the European Commission for its revised European Regional Development Funding (ERDF) rules for the next six years, which give new potential for public spending on smart grid demonstration projects. DSOs are leading on smart grid RD&D, but being regulated entities would not have been able to do so without the support of such EU grants, nor without government backing.

However, some European funding policies, despite acknowledging the need for wide-scale smart grid deployment, do not reflect the reality of funding these projects by either a) ignoring the particular regulatory barriers for DSOs in the various member states when designing funding rules, but also by b) excluding public financial support to smart grid development at local level based on the assumption that only cross-border projects can be considered to be in the EU's "common interest". The draft state aid guidelines for energy and the environment are an example of this.

EDSO would like to emphasise that:

- The European Commission estimates that €400 billion is the cost of upgrading Europe's electricity and gas distribution networks in the ten year period to 2020. The support of public funding to smart grid development can contribute towards easing energy costs for households and businesses in a time when many factors are pushing them upwards.
- Most European funding policies for electricity networks focus on cross-border projects. This ignores firstly the importance of grid stability at local level (where the majority of renewable energy is connected) for a stable transmission network, but secondly that wide-scale deployment of smart grid solutions at local level are crucial for the completion of the internal electricity market in Europe.

EDSO would like to refer the European Commission to the recent European Parliament report, adopted on February 4th 2014, on the Local and Regional Consequences of Smart Grids, but also to EDSO's comments below, when further developing its state aid policies.

Large and urgent investment needs

Overall energy costs for the consumer are rising. The Energy Prices report, that accompanied the European Commission's recent Climate and Energy Framework to 2030, indicated that overall energy costs would inevitably be incurred as a result of: the need to renew ageing energy systems, rising fossil fuel prices, adherence to existing climate and energy policies. The paper also stated that network costs are expected to continue to rise until 2030. The European Commission's Communication on Energy Infrastructure Priorities for 2020 and Beyond (2011) put a figure of €400 billion on the total needed to upgrade Europe's *distribution* networks (electricity and gas) to the level needed for a fully functioning and integrated European electricity market to operate through.

This figure is significantly high, and sends a very clear signal that we need to find smarter, more cost-efficient solutions than only using the traditional means of developing the networks – firm capacity – to help turn the EU's energy and climate objectives into a working reality by 2020. Extending / reinforcing physical infrastructure in the traditional way requires an inefficient use of costly and energy-intensive copper and is both expensive and inflexible, since DSOs must always build to accommodate the absolute maximum hypothetical level of demand on the grid (even if this level may never be reached in reality). Smartening our grids is the cost-efficient way to ensure our networks meet these policy driven demands without succumbing to an elevated and costly risk of disruptions to supply. The €400 billion investment need remains, and unless large-scale public funding is permitted to support these developments, accompanying the significant reform of regulatory regimes across the member states, the consumer will be forced to bear huge additional costs.

Private investment key but cannot replace public investment

DSOs, being natural monopolies, are regulated by their National Regulatory Agency (NRA). This regulation is set up in different ways across the member states, although most regulatory schemes active today focus on decreasing operational costs and thus hinder the development of smart grids at the urgent pace necessary to meet the EU's objectives. There is a strong need to develop the regulatory schemes in order to incentivise smart and cost-efficient developments beyond investments in firm capacity/copper.

However, despite the much needed private investment, without significant public grants to accompany it, the consumer will end up footing the €400 billion bill in this time when numerous factors are already pushing energy costs upwards. This is why state aid for smart grid development is crucial and should be encouraged. EDSO is, therefore, pleased to see energy infrastructure added to the energy guidelines for state aid, but concerned that the guidelines, if applied as they are today, will discourage the necessary government spending on smart grids at distribution level.

Local as important as cross-border – new criteria needed

Many European Commission texts make direct references to the need to support smart grid development. However, the principal tools available to financially support smart grids exclude developments at distribution level. The first of these is the Connecting Europe Facility (CEF), where projects must firstly make it onto a list of projects of common interest (PCIs). The eligibility criteria for projects to make it onto the list of PCIs are not at all suitable for smart grid development:

“...for smart grids, the project is designed for equipments and installations at high-voltage and medium-voltage level designed for a voltage of 10 kV or more. It involves transmission and distribution system operators from at least two Member States, which cover at least 50 000 users that generate or consume electricity or do both in a consumption area of at least 300 Gigawatthours/year, of which at least 20 % originate from renewable resources that are variable in nature.”

These criteria made it impossible for most smart grid projects to apply. The best part of smart grid technologies are applied to DSO networks operating at a lower voltage / local level. The result was that only two of the 250 PCIs are linked to smart grids. Likewise, the definition of smart grids in the draft guidelines for state aid to energy and the environment clearly recognises the importance of smart developments at distribution level in order to support a stable network at transmission level, but the section dedicated to energy infrastructure repeats the clear preference for projects fulfilling the PCI criteria. These guidelines are setting the rules for public financing for the years leading up to the important 2020 milestone.

EDSO would like to see the European Commission address what it sees as an underestimation of the significance of creating (on a wide-scale) smart and stable distribution networks. To focus only on projects involving two member states, something more suited to transmission level, not only ignores the value of ensuring stability at distribution level for securing stability at transmission level, but also ignores what smart systems will do for realising the EU's key objective of creating an internal market for electricity (sending clear and timely consumption and production signals to market operators, facilitating consumer participation in the market through demand side response, identifying and addressing generation/curtailment needs more effectively, making the best use of renewable electricity where it is most needed). To add to this point, it is the distribution and not the transmission networks that in most cases connect directly to the consumer, which is where the largest potential exists for the development of innovative products and services. Such products not only tend to be geared towards reducing consumer costs, helping manage demand against supply, but also work towards other EU objectives like energy efficiency and the creation of jobs and growth. EDSO would like to see smart grid development at local level considered a project of common interest, whether an individual project directly involves more than one member state or not. These are the criteria that would attract the most cost-efficient smart grid projects:

*“...for smart grids, the project is designed for equipments and installations at **any voltage level**. It involves ~~transmission and distribution network operators from at least two Member States, which~~ **network(s)** covering at least 50 000 users that generate or consume electricity or do both in a consumption area of at least **150** Gigawatthours/year, of which at least 20 % originate from renewable resources that are variable in nature.”*

Conclusion

Smart grids are the cost-efficient answer to the challenges resulting from a number of EU climate and energy policies. This is widely recognised throughout the EU institutions, as is the urgency posed by the 2020 deadline for these key climate and energy targets. The cost of research, innovation, demonstration, and finally deploying smart grids across Europe is extremely high, yet regulation in many countries poses a barrier to private investment. Nevertheless, even if much needed private investment is leveraged to fund the urgent smart grid development, the addition of public funding will ease the cost pressure on households and businesses. The state aid for energy and the environment guidelines, on one hand recognise the importance of smart grid development at distribution level, but on the other send the opposite message by imposing the same criteria as for the PCIs under the CEF. Smart grid development at local level, if deployed on a wide scale, contributes not only to the achievement of the EU's 20-20-20 objectives, the completion of the internal energy market, but also has the potential to contribute towards growth and job creation. The European Commission, by not recognising smart grid development at local level as in the common interest and by not altering the rules for state aid for energy as well as the PCI criteria to reflect this, is hampering the achievement of its own goals.



EDSO for Smart Grids is an European association gathering leading Electricity Distribution System Operators, cooperating to bring Smart Grids from vision to reality.

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